

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
5 February 2004 (05.02.2004)

PCT

(10) International Publication Number
WO 2004/010883 A1

(51) International Patent Classification⁷: A61B 18/12 (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(21) International Application Number: PCT/US2003/022900

(22) International Filing Date: 23 July 2003 (23.07.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/398,620 25 July 2002 (25.07.2002) US
60/413,410 25 September 2002 (25.09.2002) US

(71) Applicant (for all designated States except US): SHERWOOD SERVICES AG [CH/CH]; Bahnhofstrasse 29, CH-8200 Schaffhausen (CH).

(72) Inventor; and

(75) Inventor/Applicant (for US only): BUCHMAN III, Thomas L. [US/US]; 11561 South Arapahoe Street, Olathe, KS 66062 (US).

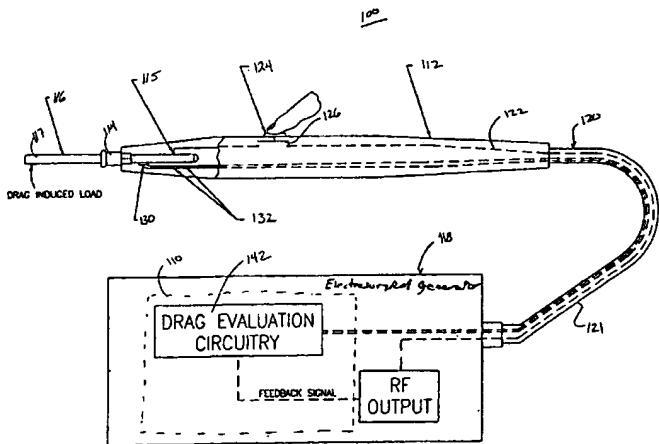
(74) Agent: DENNINGER, Douglas, E.; Tyco Healthcare Group LP, 10 Glover Avenue, Norwalk, CT 06850 (US).

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurásian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— with international search report
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: ELECTROSURGICAL PENCIL WITH DRAG SENSING CAPABILITY



WO 2004/010883 A1

(57) **Abstract:** An electrosurgical pencil (100) configured and adapted to support an electrocautery blade (116). A strain gauge (130) is affixed to the proximal, end of the electrocautery blade and measures the displacement of the blade as a result of resistance and drag acting on the blade. The electrosurgical pencil also includes a meter electrically connected to the strain gauge for monitoring either a change in voltage, a change in electrical current or a change in optical wavelength. The amount of blade displacement as measured by the strain gauge is available for display to the surgeon and/or as sensory input for a control circuit in the electrosurgical generator (118) that modulates the generator output waveform. The electrosurgical pencil further includes a control circuit electrically coupled between the electrocautery blade and the electrosurgical generator. The control circuit is configured and adapted to control power supplied to electrocautery blade based on the displacement measured by the strain gauge.